

3. Hardware

Starter Quiz · 课前小测

IGCSE Computer Science

Name: _____ Score: _____

1. The ALU in a CPU:

- ☐ performs calculations and logical comparisons
- ☐ sends control signals to other parts
- ☐ stores the running programs
- ☐ connects to the internet

2. Which is an input device?

- ☐ a barcode scanner
- ☐ a projector
- ☐ a speaker
- ☐ a laser printer

3. RAM is volatile (it loses its data without power) and holds the running programs, while ROM is non-volatile and holds the start-up (boot) instructions.

- ☐ True ☐ False

4. Which is true of a MAC address compared with an IP address?

- ☐ the MAC is fixed to the physical device; the IP is given by the network and can change
- ☐ the MAC changes on every network
- ☐ the IP never changes
- ☐ they are the same thing

5. Which change would improve CPU performance?

- ☐ increasing the clock speed or the number of cores
- ☐ using a smaller cache
- ☐ lowering the clock speed
- ☐ removing a core

6. A capacitive touch screen works by:

- ☐ sensing the electric charge of your finger
- ☐ pressing two layers together
- ☐ breaking a grid of light beams
- ☐ reading a barcode

7. A MAC address is normally written in hexadecimal.

- ☐ True ☐ False

8. Cache is small, very fast memory near the CPU that holds often-used data, so the CPU waits less than it would reading from main memory.

- ☐ True ☐ False

9. A laser printer fuses toner powder onto paper with heat, an inkjet sprays tiny drops of ink, and a 3D printer builds an object up in layers.

- ☐ True ☐ False

10. A device's IP address can change depending on the network it is using.

- ☐ True ☐ False

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1. **performs calculations and logical comparisons**

The arithmetic logic unit does the maths and logic; the control unit manages the parts.

2. **a barcode scanner**

A scanner brings data in. Projectors, speakers and printers are output devices.

3. **True**

Volatile vs non-volatile is the key split: RAM forgets when powered off, ROM remembers.

4. **the MAC is fixed to the physical device; the IP is given by the network and can change**

The MAC stays with the device (set by the maker, written in hex); the IP depends on the network and can change.

5. **increasing the clock speed or the number of cores**

More cores, a larger cache and a higher clock speed all improve performance.

6. **sensing the electric charge of your finger**

Capacitive screens detect the finger's charge (multi-touch, used in phones); resistive presses layers; infrared breaks beams.

7. **True**

MAC addresses are written in hexadecimal (e.g. AC:DE:48:00:11:22).

8. **True**

A bigger cache, more cores and a higher clock speed all raise performance — cache helps by cutting the wait for data.

9. **True**

Three different output technologies: laser (toner + heat), inkjet (sprayed ink), 3D (layer-by-layer).

10. **True**

IP addresses are assigned by the network, so the same device can have different IPs on different networks.